5090
Ser T4A2GM/L4066
December 15, 1993

Mr. Tom Lanphar
Department of Toxic Substances Control
Region 2
700 Heinz Avenue, Bldg. F, Suite 200
Berkeley, CA 94710

Subj: Results of Confirmation Sampling, Interim Removal Action at Intermediate Maintenance Facility Site, Naval Air Station (NAS), Alameda, CA

Dear Mr. Lanphar:
This letter summarizes the results of confirmation soil sampling of the interim removal action (IRA) performed at the Intermediate Maintenance Facility site (IMF site) at the Installation Restoration (IR) Site 13, NAS Alameda, California. In addition, this letter presents the Navy's recommendations for future action for the IRA at this site.

As agreed at a meeting among the Navy, the California Environmental Protection Agency's (Cal-EPA) Department of Toxic Substances Control (DTSC), and the Regional Water Quality Control Board (RWQCB) on February 2, 1993, the Navy initiated an IRA at Site 13 in September 1993 to address elevated lead levels (13,000 milligrams per kilogram [mg/kg]) in soil four feet below ground level in boring B-7. Excavation of lead-affected soils proceeded in phases, with sampling of soils between each phase to assess the effectiveness of the excavation to remove the affected soils. The primary objective of the IRA is to remove soils with elevated levels of lead and low pH that may pose immediate human and environmental risk.

At the completion of the IRA, a total of nine confirmation soil samples and one quality assurance/quality control soil sample were collected for chemical analyses including lead and pH (Figure 1). Results of the lead analyses performed on the confirmation samples are listed in Table 1. As listed in Table 1, only three of the confirmation soil samples contained lead concentrations above 100 mg/kg. The lead concentrations of these three soil samples range from 104 mg/kg to 218 mg/kg. These three samples are 137-S-13-001, 137-S-13-005, and 137-S13-009. Samples 137-S-13-001 and 137-S-13-005 are located at the western side of the IRA excavation area, and sample 137-S-13-009 is a sample from the floor of the excavation area. As discussed with DTSC on November 19, 1993, it was agreed that no additional excavation is required at floor area where sample 137-S-13-009 was collected because the lead concentration detected in this sample (104 mg/kg) is not significantly over 100 mg/kg.

On the basis of the following rationale, the Navy proposes no additional IRA excavation to remove the remaining soil with lead over 100 mg/kg at the western edge of the IRA excavation area of the IMF site.

- The purpose of this IRA is to remove soils with elevated levels of lead and low pH that may pose immediate human and environmental risk. As discussed above, the highest concentration of lead detected in the confirmation soil samples is 218 mg/kg. According to U.S. Environmental Protection Agency (EPA), the federal preliminary remediation goal for lead is 500 mg/kg. The Center for Disease Control also considers that soil with lead concentration at 500 mg/kg or below would not contribute significant lead level in children's blood. At present, the site is an

868

undeveloped vacant lot, and no industrial or other activity is conducted at this site. No current human exposure pathway is expected at this site. Therefore, the lead levels found in the confirmation soil samples, even at the highest concentration, would be unlikely to pose any immediate risk to human beings.

- The primary potential environmental risk for this site is the potential chemical impact to groundwater. Two monitoring wells (M-IMF-01 and M-IMF-02) were installed near the excavation area of this IRA during previous site investigations. Groundwater samples were collected from these two wells for chemical analyses prior to the IRA implementation. Very low levels of lead (less than 2 micrograms per liter [mg/1]) and 1.5 mg/1 were found in two groundwater samples collected from well M-IMF-01. These concentrations were below the shallow water discharge limitation of lead for marine life (5.6 mg/1) as established by the RWQCB - San Francisco Bay Region..

- Monitoring well M-IMF-01 is approximately 10 to 15 feet from the confirmation soil samples that contained lead concentrations above 100 mg/kg, as shown in the attached figure. The low levels of lead detected in the groundwater from this well indicate that the lead concentrations in soil from the confirmation sampling locations (western edge of the IRA excavation area) have not adversely impacted the groundwater quality at the IMF site.

- A lead concentration of 92.2 mg/1 was detected in one groundwater sample collected from well M-IMF-02.Monitoring well M-IMF-02 was located near boring B-7 where elevated levels of lead were found in the soil. Monitoring well M-IMF-02 was abandoned and destroyed during the IRA excavation. The level of lead detected in well M-IMF-02 may be due to the source at boring B-7. During the IRA, the source at B-7 was removed. Therefore, the lead and pH levels found the confirmation soil samples would be unlikely to pose any immediate environmental risk.

Results of the confirmation soil sampling will be included in the risk assessment during the remedial investigation/feasibility study. The risk assessment will be the basis for evaluating the final remediation at this site. The needs for additional remediation at the IMF site will be evaluated during the remedial investigation and feasibility study.

Additional quarterly groundwater monitoring will be conducted to continue monitoring the groundwater quality underneath Site 13, including the IMF site. If results of the additional groundwater monitoring indicate that the groundwater quality underneath the IMF site is adversely impacted due to the lead concentrtion at the western edge of the IRA excavation area, additional IRA work will be evaluated to remediate the groundwater quality.

If you have any questions, please call Mr. Gary J. Munekawa, Code T4A2GM, at (415) 244-2524.

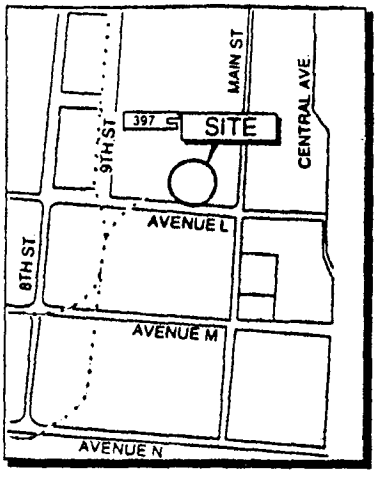
Sincerely,

Original signed by:

MARCELO G. PASCUA, JR.
Head, IR Section, Base Closure Team

Copy to:
Regional Water Quality Control Board (Attn: James Nursala)
US Environmental Protection Agency (Attn: James Ricks)
NAS Alameda (Attn: Lt. Mike Petouhoff)
NAS Alameda (Attn: Sherrie Withrow, Admin Records)
PRC (Attn: Duane Balch)
Montgomery Watson (Attn: Ken Leung)

Blind copy to:
T4A, T4A2, T4A2GM, T4A2GK
Admin Record (1 copy)
Chron, blue, pink, green
File: NAS Alameda



137-S13-002

137-S13-006

MW-IMF-02

B-7

137-S13-009

137-S13-003

137-S13-001

137-S13-005

137-S13-007
137-S13-010 (Dup)

137-S13-008

137-S13-004

MW-IMF-01

N

0 2.5 5
SCALE IN FEET

LEGEND

- Monitoring Well Location
- Monitoring Well (Destroyed) Location
- HLA Soil Boring Location
- Final Confirmation Hand-Auger Sample Location
- Final Confirmation Floor Sample Location
- Final Confirmation Wall Sample Location
- Lateral Extent of Excavation
- 137-S13-001 Final Confirmation Sample Identification

NAVAL AIR STATION ALAMEDA
ALAMEDA, CALIFORNIA

FINAL CONFIRMATION SAMPLE LOCATIONS
IMF SITE

FIGURE 1

TABLE 1

FINAL CONFIRMATION SAMPLE RESULTS
NAS ALAMEDA, IMF SITE
INTERIM REMOVAL ACTION

Sample Identification	pH	Total lead (mg/kg)
137-S13-001	1.6	214
137-S13-002	7.2	24.9
137-S13-003	8.8	1.4
137-S13-004	7.5	13.3
137-S13-005	3.3	218
137-S13-006	7.7	36.7
137-S13-007	8.3	14.3
137-S13-010(Dup)*	3.6	68.4
137-S13-008	4.5	23.8
137-S13-009	3.4	104

Notes:

* Sample 137-S13-010 is a duplicate sample of 137-S13-007
pH measured using EPA Method 9045.
Total lead analyzed using EPA Method 6010.